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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/539,915

10/26/2005

Neville Hedrick

05-441

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34704 7590 07/22/2008

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SUITE 1201

NEW HAVEN, CT 06510

EXAMINER

ANDRISH, SEAN D

ART UNIT

PAPER NUMBER

3672

MAIL DATE

DELIVERY MODE

07/22/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/539,915 | Applicant(s) HEDRICK, NEVILLE | |
| | Examiner SEAN D. ANDRISH | Art Unit 3672 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16 - 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16 - 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt is acknowledged of a request for continued examination under 37 CFR 1.114, filed on 12 May 2008.

Claim Objections

2. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term “substantially” renders the claim indefinite because it does not clearly define the bounds of the claim limitation(s).
3. Claim 27 is objected to because of the following informalities: The specification and the drawings indicate that the stop portion is mounted about the shaft adjacent the first end thereof, not adjacent the second end as recited in claim 27. For purposes of examination, the stop portion will be considered as being mounted about the shaft adjacent the first end thereof as best understood by the examiner. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The structure of the apparatus recited in claim 19 includes a narrow portion of the shaft extending from the wide portion to the

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second end of the shaft. This structure is inconsistent with the independent claim 16 on which it depends. The structure of claim 16 includes a shaft having a relatively wide portion adjacent the first end, a relatively wide portion adjacent the second end, and a relatively narrow portion intermediate the wide portions. It appears that applicant is mixing embodiments of the claimed invention.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 16 – 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Fergusson (2004/0136789).

Regarding claim 16, Fergusson discloses a rock bolt comprising: a shaft (8) having a first end and a second end; the shaft having relatively wide portions adjacent the first end and the second end and a relatively narrow intermediate portion (Fig. 14); an anchor (300) having a longitudinal bore; the longitudinal bore having a portion of lesser transverse diameter than that of the relatively wide portions; and the internal surface of the anchor (300) and the external surface of shaft (8) each have a profile which are complimentary in shape (Figs. 12 – 14; paragraph 0038).

Regarding claim 17, Fergusson further discloses the narrow portion is U-shaped comprising a base portion and two side portions that form an obtuse angle with the base (Fig.

14). Examiner notes that the angle between either side portion and the base is obtuse but either angle can also be considered a substantially right angle as best understood by the examiner.

Regarding claim 18, Fergusson further discloses the narrow portion of the shaft (8) is a relatively short section (Fig. 14).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 20 - 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fergusson in view of Maltby (2005/0042037).

Regarding claims 20 and 21, Fergusson discloses all of the limitations of the above claim(s) except for a debonding sheath extending the full length of the shaft. Maltby teaches a debonding sheath (32) extending the full length of the shaft (12) (Fig. 2; paragraph 0018) to allow the shaft of a rock bolt to slide within a grouted rock hole. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the rock bolt as taught by Fergusson with the debonding sheath as taught by Maltby to allow the shaft of a rock bolt to slide within a grouted rock hole.

Regarding claim 22, Fergusson discloses all of the limitations of the above claim(s) except for an anchor member formed of heat treated steel. Maltby teaches an anchor (14) composed of heat-treated steel (paragraph 0014) to secure the rock bolt in place within the rock hole.

Regarding claim 23, Fergusson further discloses an anchor member (300) having a relatively wide portion adjacent the wide portion of the shaft (8) and a portion tapered inwardly towards the second end of the shaft (Fig. 14).

Regarding claims 24 and 25, Fergusson discloses all of the limitations of the above claim(s) except for nitriding the longitudinal bore of the anchor. Maltby teaches nitrocarburising the longitudinal bore of the anchor (paragraph 0016) to prevent molecular welding to the shaft. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the rock bolt as disclosed by Fergusson with the nitrocarburised longitudinal bore of the anchor as taught by Maltby to prevent molecular welding of the anchor to the shaft.

Regarding claim 26, Fergusson discloses all of the limitations of the above claim(s) except for a rock engaging plate mounted about the shaft adjacent the second end. Maltby teaches a rock engaging plate (28) adjacent the second end of the shaft (12) (Fig. 2) to engage the rock face around the rock hole. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the rock bolt as disclosed by Fergusson with the rock engaging plate as taught by Maltby to engage the rock face surrounding the rock hole.

10. Claims 27, 28, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fergusson in view of Nes (5,636,945).

Regarding claims 27 and 28, Fergusson discloses all of the limitations of the above claim(s) except for a stop portion comprising a welding ring. Nes teaches a stop portion comprising a metal ring (bushing 14) (Fig. 1; column 2, lines 38 – 41) to fasten a rock bolt

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within the rock hole. It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the rock bolt as disclosed by Fergusson with the stop portion as taught by Nes to fasten a rock bolt within the rock hole. Although Nes is silent regarding a welding ring, forming a metal ring as taught by Nes by welding would have been within the skill in the art at the time the invention was made.

Regarding claim 30, Fergusson discloses all of the limitations of the above claim(s). However, Fergusson is silent regarding filling the rock hole with grout after inserting the rock bolt into the hole. Nes teaches introducing grout into a borehole following the insertion of the rock bolt into the hole (column 2, lines 38 – 52) to cement the rock bolt within the rock hole.

11. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fergusson in view of Gaudreau et al. (6,390,735). Fergusson discloses all of the limitations of the above claim(s) except for a mixing paddle attached to the first end of the shaft. Gaudreau et al. teaches a mixing paddle (1) (Fig. 7; column 6, lines 29 - 43) to mix the components of a chemical grout. It would have been considered obvious to one of ordinary skill in the art at the time the invention was made to have combined the rock bolt as taught by Fergusson with the mixing paddle as taught by Gaudreau et al. to mix the components of a chemical grout.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN D. ANDRISH whose telephone number is (571)270-3098. The examiner can normally be reached on Mon - Fri, 7:30am - 5:00pm, Alternate Fri off, EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (571) 272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sunil Singh/
Primary Examiner, Art Unit 3672

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Primary Examiner
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SDA
7/17/2008